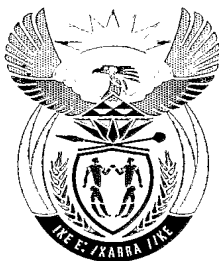


REC'D 15 APR 2005

Sertifikaat

PATENTEKANTOOR
REPUBLIEK VAN SUID-AFRIKA

PCT



IB/04/04064

Certificate

PATENT OFFICE
REPUBLIC OF SOUTH AFRICA

DEPARTEMENT VAN HANDEL
EN NYWERHEID

DEPARTMENT OF TRADE AND
INDUSTRY

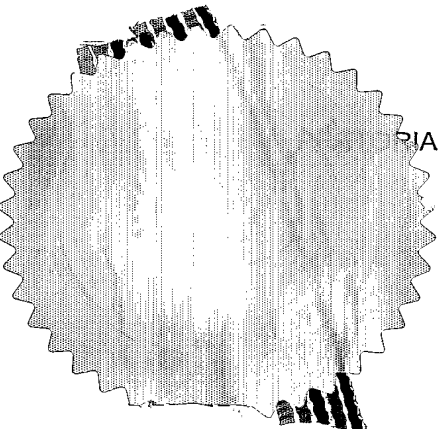
Hiermee word gesertifiseer dat
This is to certify that

The documents annexed hereto are true copies of:

Application forms P.1 and P.3, provisional specification and drawings of South African Patent Application No. 2003/09689 as originally filed in the Republic of South Africa on 12 December 2003 in the name of TIEGS, Lonnie Dale for an invention entitled: "PROCTETIVE SPORTS GEAR";

AND it is further certified that an application for correction was filed at the South African Patent Office on 20 December 2004 correcting the title to read "PROTECTIVE SPORTS GEAR", and the correction was allowed on 22 December 2004.

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)



in die Republiek van Suid-Afrika, hierdie
in the Republic of South Africa, this

dag van
day of

Registrateur van Patente
Registrar of Patents

REPUBLIC OF SOUTH AFRICA
 PATENTS ACT, 1978
 APPLICATION FOR A PATENT AND
 ACKNOWLEDGEMENT OF RECEIPT
 (Section 30(1) Regulation 22)

REPUBLIC OF SOUTH AFRICA	
FORM P.1	REVENUE
(to be lodged in duplicate)	
12.12.03	R 060.00
THE GRANT OF A PATENT IS HEREBY REQUESTED BY THE UNDERMENTIONED APPLICANT ON THE BASIS OF THE PRESENT APPLICATION FILED IN DUPLICATE	
21 01	PATENT APPLICATION NO 2003/9689
A&A REF	V16048 AS/JW/am

THE GRANT OF A PATENT IS HEREBY REQUESTED BY THE UNDERMENTIONED APPLICANT ON THE BASIS OF THE PRESENT APPLICATION FILED IN DUPLICATE

21	01	PATENT APPLICATION NO 2003/9689	A&A REF	V16048 AS/JW/am
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71	FULL NAME(S) OF APPLICANT(S)
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TIEGS, Lonnie Dale

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 Gauteng Province, Republic of South Africa

54	TITLE OF INVENTION
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**PROTECTIVE
 " PROTECTIVE SPORTS GEAR "**

*Novel
 1.2.2003*

Only the items marked with an "X" in the blocks below are applicable.

<input type="checkbox"/>	THE APPLICANT CLAIMS PRIORITY AS SET OUT ON THE ACCOMPANYING FORM P.2. The earliest priority claimed is
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Country:	No:	Date:
<input type="checkbox"/>	THE APPLICATION IS FOR A PATENT OF ADDITION TO PATENT APPLICATION NO	21 01

<input type="checkbox"/>	THIS APPLICATION IS A FRESH APPLICATION IN TERMS OF SECTION 37 AND BASED ON APPLICATION NO	21 01
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THIS APPLICATION IS ACCOMPANIED BY:

- A single copy of a provisional specification of **15** pages
- Drawings of **4** sheets
- Publication particulars and abstract (Form P.8 in duplicate) (for complete only)
- A copy of Figure of the drawings (if any) for the abstract (for complete only)
- An assignment of invention
- Certified priority document(s). (State quantity)
- Translation of the priority document(s)
- An assignment of priority rights
- A copy of Form P.2 and the specification of RSA Patent Application No
- Form P.2 in duplicate
- A declaration and power of attorney on Form P.3
- Request for ante-dating on Form P.4
- Request for classification on Form P.9
- Request for delay of acceptance on Form P.4
- Extra copy of informal drawings (for complete only)

21 01
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 2003-12-12
 REGISTRATEUR VAN PATENTE, MODELLE,
 HANDELSMERKE EN OUTEURSREG

74	ADDRESS FOR SERVICE: Adams & Adams, Pretoria
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Dated this 12 day of December 2003


 AV vR SCHWIEZER
 ADAMS & ADAMS
 APPLICANTS PATENT ATTORNEYS

The duplicate will be returned to the applicant's address for service as proof of lodging but is not valid unless endorsed with official stamp

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 REGISTRAR OF PATENTS

PATENT APPLICATION NO		
21	01	2003/9689

A&A Ref: V16048 AS/JW/dm

LODGING DATE	
22	12 December 2003

FULL NAME(S) OF APPLICANT(S)	
71	TIEGS, Lonnie Dale

FULL NAME(S) OF INVENTOR(S)	
72	TIEGS, Lonnie Dale

EARLIEST PRIORITY CLAIMED	COUNTRY	NUMBER	DATE
	33	NIL	31
		NIL	32
			NIL

NOTE: The country must be indicated by its International Abbreviation - see schedule 4 of the Regulations

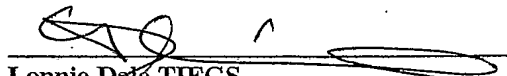
TITLE OF INVENTION	
54	" PROTECTIVE SPORTS GEAR "

* I/We **Lonnie Dale TiegS**

hereby declare that :-

1. I/we am/are the applicant(s) mentioned above;
- **2. ~~I/we have been authorized by the applicant(s) to make this declaration and have knowledge of the facts herein stated in the capacity of~~ ~~of the applicant(s);~~
- ***3. the inventor(s) of the abovementioned invention is/are the person(s) named above and the applicant(s) has/have acquired the right to apply by virtue of an assignment from the inventor(s);
4. to the best of my/our knowledge and belief, if a patent is granted on the application, there will be no lawful ground for the revocation of the patent;
- ****5. ~~this is a convention application and the earliest application from which priority is claimed as set out above is the first application in a convention country in respect of the invention claimed in any of the claims; and~~
6. the partners and qualified staff of the firm of **ADAMS & ADAMS**, patent attorneys, are authorised, jointly and severally, with powers of substitution and revocation, to represent the applicant(s) in this application and to be the address for service of the applicant(s) while the application is pending and after a patent has been granted on the application.

SIGNED THIS 11TH DAY OF December 2003


Lonnie Dale TIEGS

Full Names:

(no legalization necessary)

* In the case of application in the name of a company, partnership or firm, give full names of signatory/signatories, delete paragraph 1, and enter capacity of each signatory in paragraph 2.
 **If the applicant is a natural person, delete paragraph 2.
 ***If the right to apply is not by virtue of an assignment from the inventor(s), delete "an assignment from the inventor(s)" and give details of acquisition of right.
 ****For non-convention applications, delete paragraph 5.

ADAMS & ADAMS
PATENT ATTORNEYS
PRETORIA

REPUBLIC OF SOUTH AFRICA
Patents Act, 1978

PROVISIONAL SPECIFICATION

(Section 30 (1) - Regulation 27)

21	01	OFFICIAL APPLICATION NO
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22	LODGING DATE
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• • • 2003 / 9689

12 December 2003

71	FULL NAME(S) OF APPLICANT(S)
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TIEGS, Lonnie Dale

72	FULL NAME(S) OF INVENTOR(S)
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TIEGS, Lonnie Dale

54	TITLE OF INVENTION
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" PROTECTIVE SPORTS GEAR "

This invention relates to protective sports gear. It more particularly relates to a protective sports gear assembly, and to an attachment for protective sports gear. It relates also to a set of attachments for protective sports gear.

It is expected that the invention will particularly advantageously be applicable to outdoor sports such as cycling, snowboarding, skiing, and other outdoor sports in which protective gear is normally worn. Accordingly, such application should particularly be borne in mind when considering this specification.

In accordance with one aspect of the invention there is provided a protective sports gear assembly which includes an item of protective sports gear for protecting the head or part of the head of a wearer, and at least one attachment attached to the item of protective sports gear for location alongside the face and forwardly from an ear of a wearer of the item of protective sports gear, the attachment being shaped and sized such that it deflects flow of air alongside the head of the wearer, when the wearer moves in a forward direction, away from at least the outer ear canal opening of the wearer, thereby reducing wind noise levels or volumes experienced by the wearer.

Advantageously, the assembly will include two attachments attached to opposite sides of the item of protective sports gear, the attachments respectively being associated with the respective ears of a wearer of the item of protective sports gear.

The attachments may be releasably attached to the item of protective sports gear. When releasably attached to the item of protective sports gear, each attachment may include releasable attachment formations for effecting said attachment.

The attachments may be vertically elongated and may have inner edges for respectively more or less sealingly abutting the respective sides of the face of a wearer of the item of protective sports gear, and outer edges which respectively are spaced laterally outwardly from the respective sides of the face of the wearer.

The attachments may be generally in the form of aerofoils, with front inner edges thereof defining leading edges and with outer edges thereof defining trailing edges.

The attachments are preferably no shorter than the adult human pinna or auricle, for deflecting flow of air away from the entire ear of a

wearer of the item of protective sports gear, when the wearer moves in a forward direction. Naturally, the vertical length and the shape of the attachments may be selected in accordance with the length and shape of a particular wearer's ears, and in accordance with an expected or actual angle of attack, which angle of attack varies from sport to sport, which the wearer's head is expected to make with air flow alongside the wearer's head.

In one embodiment, the protective sports gear may be in the form of a helmet, such as a cycling helmet, having a releasable strap or straps extending alongside and/or under the chin of a wearer for securing it to the head of the wearer, with the attachments being attached to one or more of said straps. In this embodiment, the strap or straps of the helmet will thus more or less sealingly abut the sides of the face of a wearer of the protective sports gear, and the inner edges of the attachments, in turn, will more or less sealingly abut the strap or the respective straps, instead of abutting to wearer's face directly.

When the protective sports gear is in the form of a helmet, the attachment formations, in one embodiment, may be in the form of complementary hook - and - loop strips, e.g. Velcro™ strips, provided on each attachment and on the strap or on the respective straps of the helmet. In another embodiment, the attachment formations may be in the form of

foldable flaps projecting from the respective inner edges of the attachments, which flaps are foldable around the strap or around the respective straps, and the free ends of which flaps are securable to the attachments. Typically, each of the respective flaps and the attachments will be provided with complementary hook - and - loop (e.g. Velcro™) strips to effect said securing.

In this embodiment, each attachment may also include an opening spaced between its inner edge and its outer edge for receiving an ear shaft of a pair of glasses, typically sports sunglasses of which the ear shafts are operatively outwardly curved so as not to abut the sides of the head of the wearer. Naturally, these openings will be shaped and sized such that walls of the attachments defining the openings more or less sealingly receive the respective ear shafts of the pair of glasses received by the openings.

In another embodiment, the item of protective sports gear may be in the form of a pair of spectacles or glasses, such as sunglasses, typically sports glasses, with the attachments respectively being attached to the respective ear shafts of the pair of glasses.

When the item of protective sports gear is in the form of a pair of glasses, the attachment formations may be in the form of clips or the like

fast or integral with, or recesses in, the attachments and providing seats in which the shafts of the pair of glasses are receivable.

In yet another embodiment, the protective sports gear assembly may be in the form of a pair of snow-goggles, of the kind used by skiers or snowboarders, having an elastic strap or straps receivable around the head of a wearer for securing it to the head of the wearer, with the attachments being attached to one or more of said elastic straps.

The attachments may be of synthetic plastics material construction. Advantageously, the attachments will be of more or less substantially air - impervious foam - plastics construction.

The attachments may be in the form of mouldings or castings. When in the form of mouldings or castings, the attachments may thus be in the form of synthetic plastics material mouldings or castings.

When the protective sports gear assembly is in the form of a bicycle helmet, the synthetic plastics material from which the attachments are constructed may, advantageously, be a resiliently flexible synthetic plastics material so that their inner edges more or less conform with sides of the head of the wearer to effect said more or less sealing abutment. Also, when the wearer wears a pair of glasses, the ear shafts of which are

received respectively between the respective straps of the helmet and the respective sides of the face of the wearer, inner edges of the respective attachments, when the attachments are manufactured from a resiliently flexible synthetic plastics material, will conform to the shape of the straps substantially to maintain said more or less sealing abutment.

In accordance with another aspect of the invention there is provided an attachment for an item of protective sports gear, for reducing wind noise levels or volumes experienced by a wearer of the item of protective sports gear, the attachment being as hereinbefore described.

In accordance with a further aspect of the invention there is provided a set of attachments for an item of protective sports gear, which set includes two attachments as hereinbefore described, the two attachments respectively being shaped for association with the left ear of a person and for association with the right ear of a person.

The invention is now described, by way of example, with reference to the accompanying diagrammatic drawings.

In the drawings:

Figure 1 shows a schematic front elevation of a protective sports gear assembly in accordance with the invention;

Figure 2 shows a schematic side elevation of the protective sports gear assembly shown in Figure 1;

Figure 3 shows a view corresponding to that of Figure 1 of another embodiment of a protective sports gear assembly in accordance with the invention; and

Figure 4 shows a view corresponding to that of Figure 2 of the protective sports gear assembly shown in Figure 3.

With reference to Figures 1 and 2 of the drawings, a protective sports gear assembly in accordance with the invention in generally indicated by reference numeral 10. The assembly 10 includes an item of protective sports gear in the form of a cycling helmet 12 received on the head 14 (shown schematically in broken lines) of a wearer, in this case a cyclist, for protecting part of the head of the cyclist. The cycling helmet 12 is secured on the head 14 of the cyclist by means of two strap assemblies 16, 18, each comprising a pair of downwardly converging straps 19, which are typically adjustable in length, spaced in the far – and – aft direction, the assemblies 16, 18 respectively extending across opposite sides of the head 14 of the cyclist, with free ends of the strap assemblies 16, 18 being secured together by means of a buckle or clip 20 under the chin of the cyclist.

The assembly 10 further includes two attachments 22, 24

respectively attached to the forward straps 19 of the strap assemblies 16, 18 such that they are located forwardly from the ears 26, 28 (also shown in broken lines) of the cyclist. The attachments 22, 24 are shaped and sized such that they deflect flow of air alongside the head 14 of the cyclist, when the cyclist moves in a forward direction, laterally outwardly and away from the ears 26, 28 of the cyclist, thereby reducing wind noise levels or volumes experienced by the cyclist.

As can be seen in Figures 1 and 2 of the drawings, the respective strap assemblies 16, 18 closely abut sides of the head 14 of the cyclist. With reference to Figure 2 of the drawings, the strap assemblies 16, 18 respectively are branched into two limbs constituting the straps 19 and forming V-shapes with the respective ears 26, 28 of the cyclist being received between the limbs of the respective assemblies 16, 18.

The attachments 22, 24 have inner edges 30 which respectively, via the strap assemblies 16, 18 to which they are respectively attached, more or less sealingly abut opposite sides of the head 14 of the cyclist substantially to prevent air leakage between said inner edges 30 and the respective strap assemblies 16, 18 and sides of the head 14 of the cyclist when the cyclist moves in a forward direction. The attachments 22, 24 have outer edges 32 spaced laterally outwardly from the sides of the head 14 of the cyclist.

In the embodiment shown in Figures 1 and 2, the attachments 22, 24 are releasably attached to the strap assemblies 16, 18 and therefore include attachment formations. In this embodiment, the attachment formations are in the form of complementary hook-and-loop (in this embodiment Velcro™) strips 34, 36 respectively fast with the limbs 19 of the strap assemblies 16, 18 and with the inner edges 30 of the attachments 22, 24. The strips 34, 36 are not clearly visible in the drawings, but, in some embodiments, they extend respectively along the entire vertical length of the inner edges 30 of the attachments 22, 24. In other embodiments the strips 34, 36 will extend intermittently along the vertical lengths of the inner edges 30 of the attachments 22, 24.

Although not shown as such in Figures 1 and 2 of the drawings, the strips 34 are respectively secured to sleeves (not shown) which, in turn, are respectively slidably received over the straps 19 of the respective strap assemblies 16, 18, such that the attachments 22, 24 are slidable along the lengths of their associated straps 19 to accommodate adjustment of the lengths of the straps 19. The assembly 10 further also includes complementary hook-and-loop (typically Velcro™) strips (not shown) respectively attached to upper ends of the attachments 22, 24 and to a lower rim of the helmet 12 so that the attachments 22, 24 are securable in fixed positions relative to the helmet 12.

The attachments 22, 24 are generally in the form of vertically elongated aerofoils, with operative front inner edges of the attachments 22, 24 defining leading edges and the outer edges 32 of the attachments 22, 24 defining trailing edges. As can be seen from the drawings, the attachments are longer than the pinnae or auricles of the ears 26, 28 of the cyclist such that, when the cyclist moves in a forward direction, air flow alongside the head 14 of the cyclist is directed away from the entire outer ear. Naturally, the exact vertical length and the shape of the attachments 22, 24 can be selected in accordance with the length and shape of a particular wearer's ears, and in accordance with an expected or actual angle of attack, which angle of attack varies from sport to sport, which the wearer's head is expected to make with air flow alongside the wearer's head.

In some embodiments (not shown), each attachment 22, 24 also includes an opening spaced between its inner edge 30 and its outer edge 32 for receiving an ear shaft of a pair of glasses, typically sports sunglasses of which the ear shafts are operatively outwardly curved so as not to abut the sides of the head 14 of the wearer. Naturally, these openings will be shaped and sized such that walls of the attachments 22, 24 defining the openings more or less sealingly receive the respective ear shafts of the pair of glasses received by the openings.

The attachments 22, 24 are of synthetic plastics material construction and are in the form of mouldings or castings. In this embodiment, the attachments 22, 24 are in the form of substantially air-impervious foam-plastics construction. Naturally, the attachments 22, 24 need not necessarily be in the form of mouldings or castings and can be constructed of any other material which resists air flow therethrough.

Preferably, when the protective sports gear assembly is in the form of a bicycle helmet 12, the synthetic plastics material from which the attachments 22, 24 are constructed will be resiliently flexible synthetic plastics material so that their inner edges 30 more or less conform with sides of the head 14 of the wearer to effect said more or less sealing abutment. Also, when the wearer wears a pair of glasses, the ear shafts of which are received respectively between the respective straps 19 of the helmet 12 and the respective sides of the face 14 of the wearer, inner edges 30 of the respective attachments, when the attachments are manufactured from a resiliently flexible synthetic plastics material, will conform to the shape of the straps 19 substantially to maintain said more or less sealing abutment.

Referring now to Figures 3 and 4 of the drawings, another embodiment of a protective sports gear assembly in accordance with the invention is generally indicated by reference numeral 40. The assembly 40 in part resembles the assembly 10 and, accordingly, like reference numerals

are used to indicate like parts or features unless otherwise indicated.

In the embodiment shown in Figures 3 and 4, the protective sports gear assembly 40 includes an item of protective sports gear in the form of a pair of sports sunglasses 42 for protecting the eyes of the wearer. The pair of glasses has ear shafts 44, 46 connecting the frame 48 of the pair of glasses 42 with the ear pieces 50. In this embodiment, the attachments 22, 24 are respectively attached to the respective shafts 44, 46 of the pair of glasses 42.

As can be seen in Figures 3 and 4 of the drawings, the attachments 22, 24 are located in more or less similar positions relative to the head 14 of the wearer as the attachments 22, 24 of the protective sports gear assembly 10 shown in Figures 1 and 2 and, accordingly, serve the same purpose when the wearer moves in a forward direction.

In this embodiment, however, the attachment formations effecting attachment of the attachments 22, 24 to the shafts 44, 46 of the pair of glasses 42 are in the form of recesses 52, which, conveniently, are formed during moulding or casting of the attachments 22, 24, with the recesses providing seats 54 within which the shafts 44, 46 are respectively received. It is to be appreciated, however, that any other suitable attachment means, such as clips or the like, can be employed to attach the

attachments 22, 24 to the shafts 44, 46 of the pair of glasses 42.

In this embodiment, the inner edges 30 of the attachments 22, 24 bear directly on and more or less sealingly abut the sides of the head 14 of the wearer.

It will be appreciated that the attachments in accordance with the invention can also be used in combination with other forms of protective sports gear assemblies, such as snow goggles and the like, worn on the head of a wearer. Likewise, the attachments can also be used with glasses other than sports sunglasses.

The invention as described and illustrated will thus, in practice, reduce wind noise levels or volumes experienced by a sportsperson when moving in a forward direction, thereby enabling the sportsperson more easily to identify other forms of noise such as traffic in the case of a cyclist.

DATE OF 12TH DECEMBER 2003



**AV VR SCHWEIZER
ADAMS & ADAMS
APPLICANT'S PATENT ATTORNEY**

TIEGS, Lonnie Dale

FOUR SHEETS
SHEET No. 1

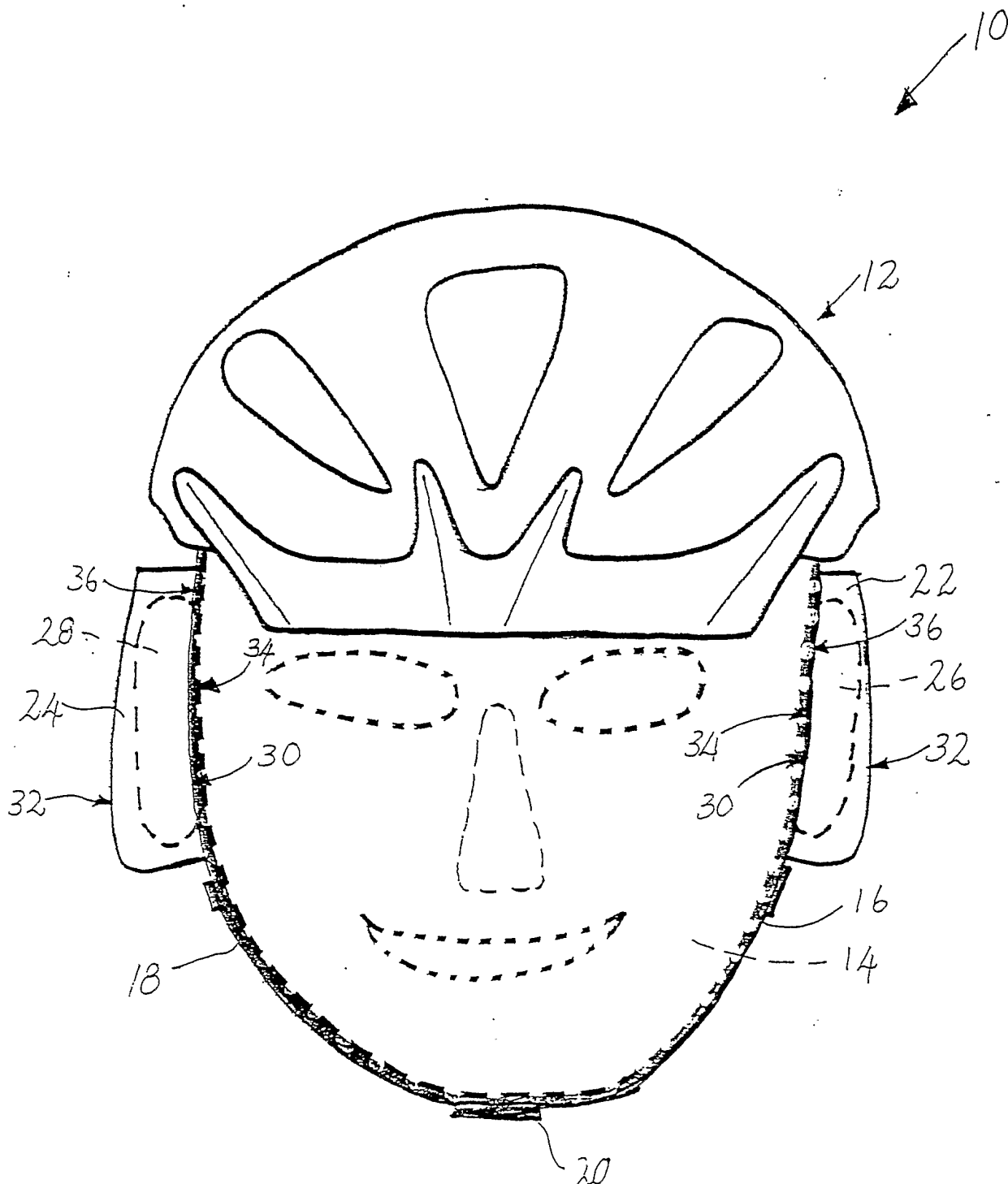



FIG. 1


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SHEET No. 2

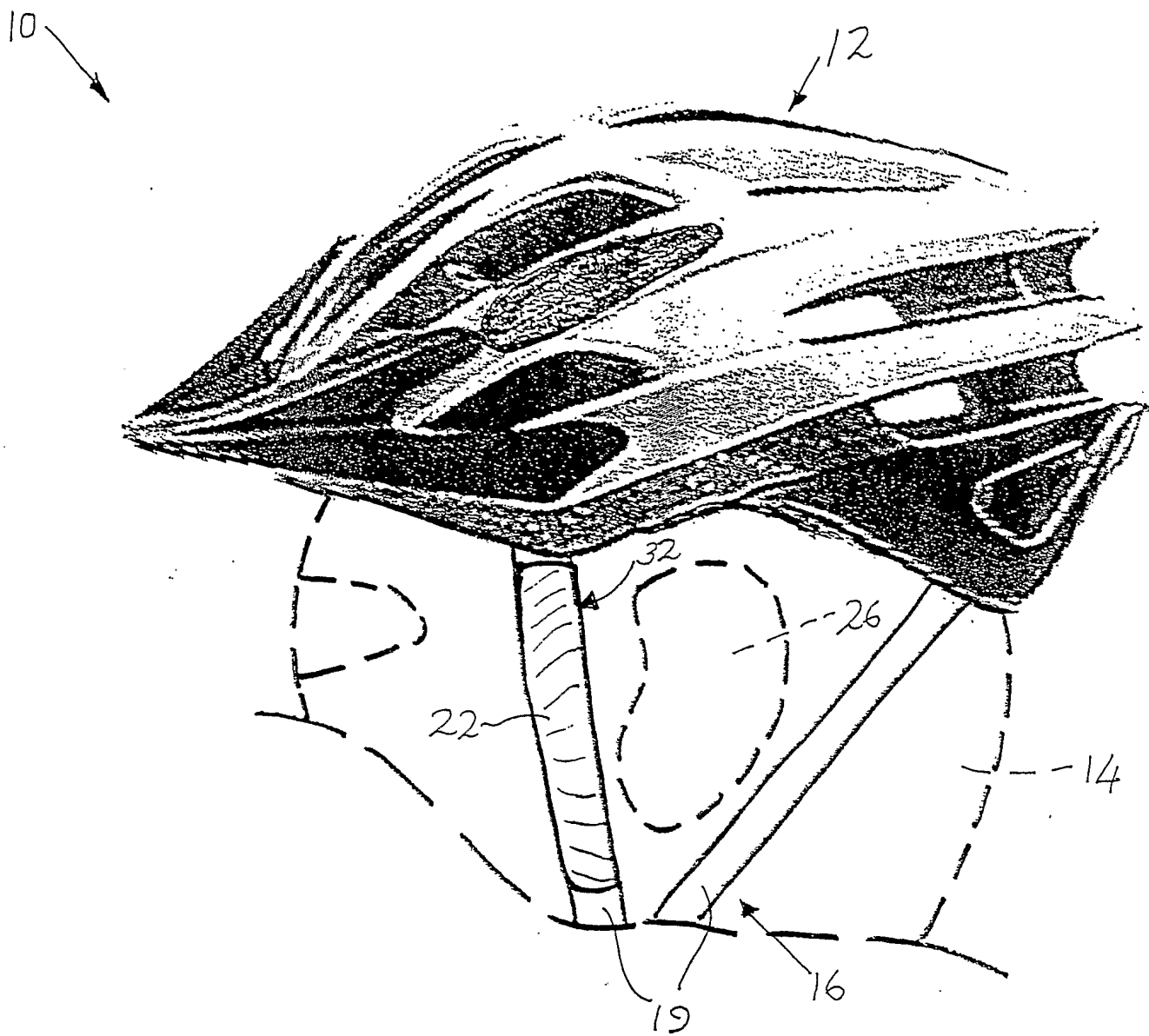


FIG 2

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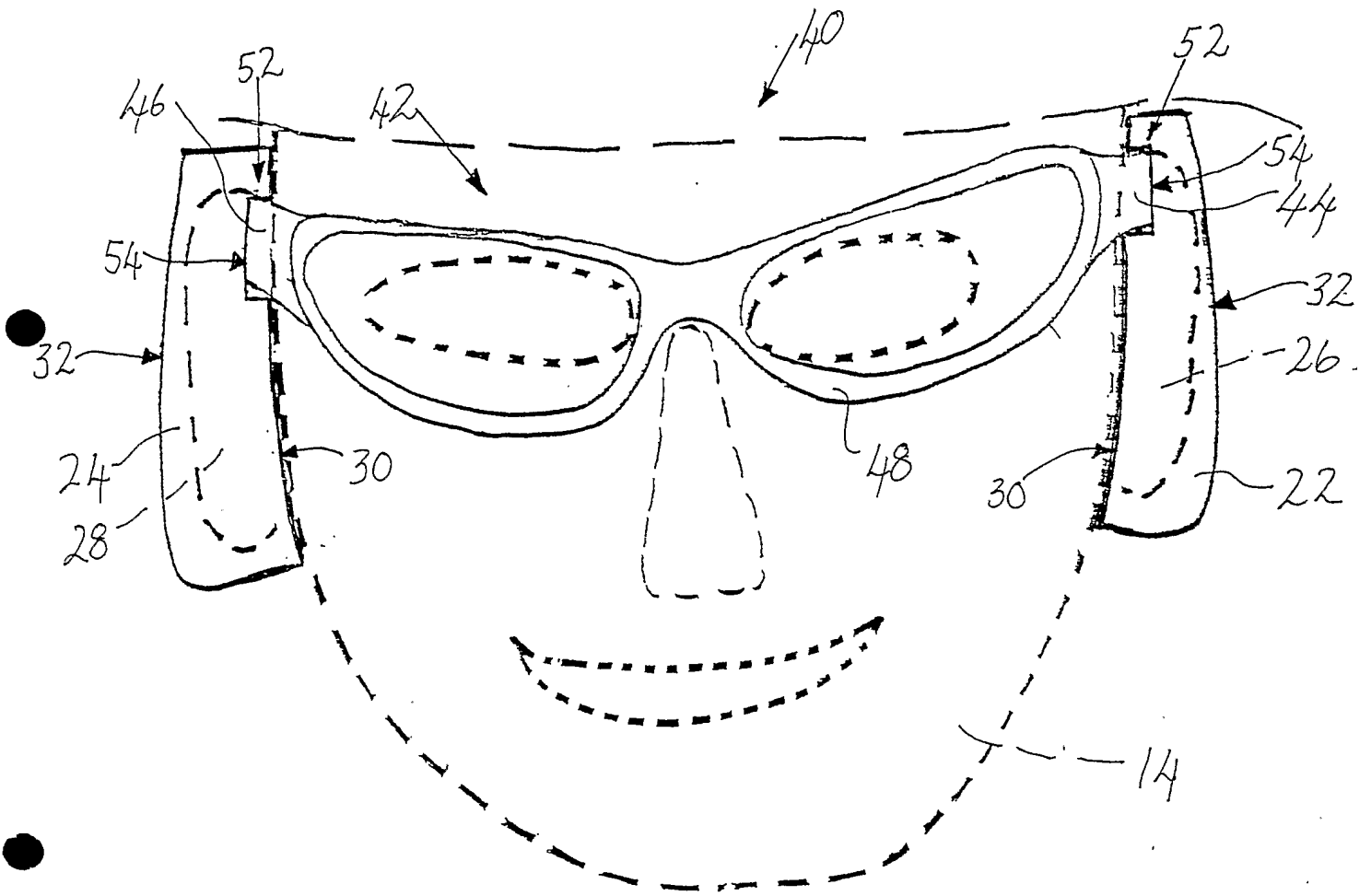


FIG. 3

[Signature]
 AV vR SCHWEIZER
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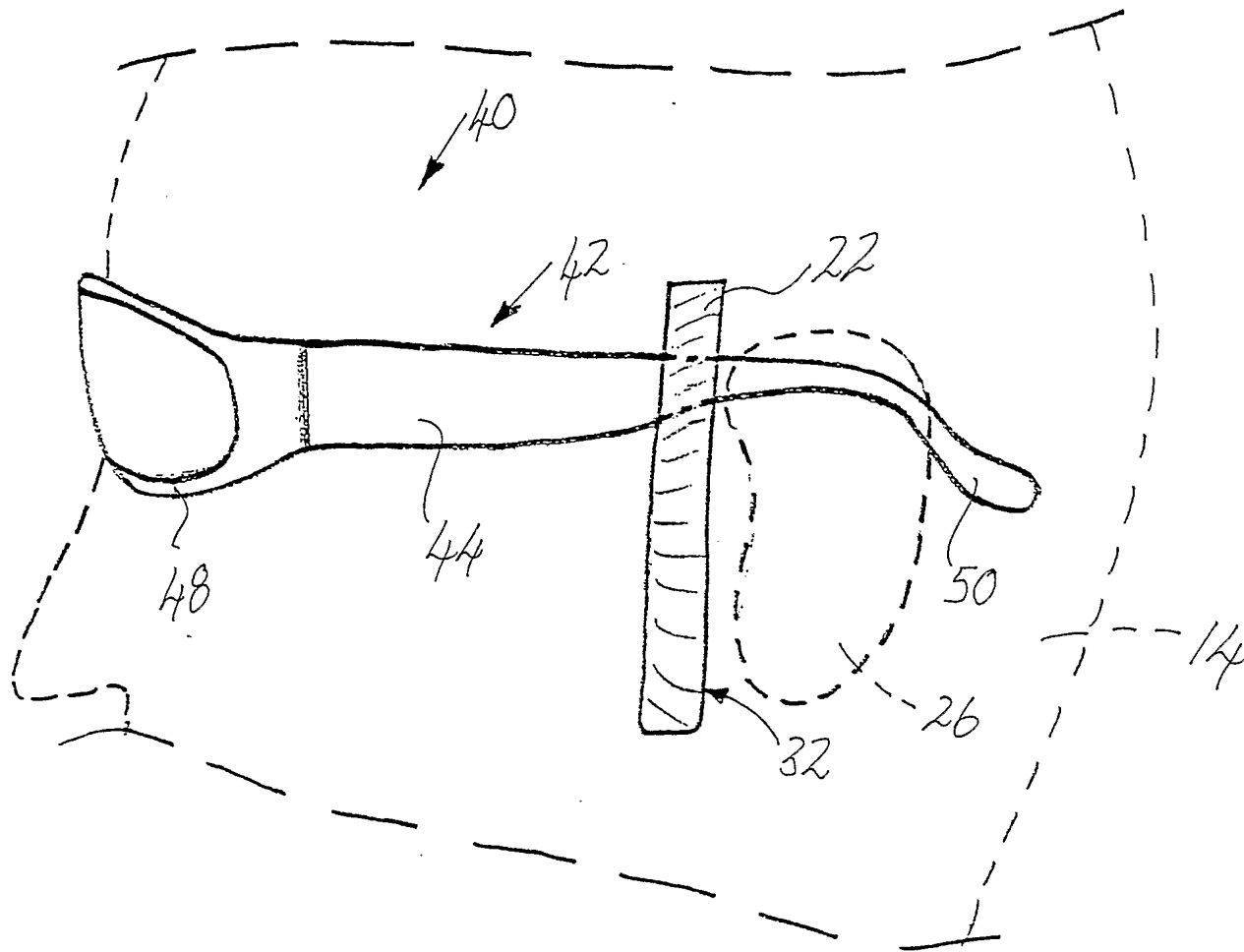


FIG. 4



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